

TRACHEOSTOMY Indications for tracheostomy after trauma include flail chest, severely contused lung, injuries to the head and neck, mediastinal emphysema, and unconsciousness of more than 24 hours. These injuries produce less evident indications than acute laryngeal obstruction. Tracheostomy is best performed in the operating room with an endotracheal tube in place. Incision of the trachea below the cricoid cartilage and yet high enough to prevent the tracheostomy tube from resting on the carina or in a main stem bronchus is crucial. Complications occur two to five times more often after emergency than after elective tracheostomy. Humidification, preferably with warm mist, removal of secretions by suction catheter and postural drainage, and a good aseptic treatment of the wound are essential. Frequently assisted mechanical ventilation is required even though cyanosis is absent and the patient appears only a little dyspneic. (Eiseman, B., and Spencer, F. C.: *Tracheostomy. An Underrated Surgical Procedure*, *J. A. M. A.* 184: 684 (June 1) 1963.)

TRACHEOSTOMY Ventilation and arterial blood gas studies were done in 14 patients while breathing through the mouth and while breathing through a tracheostomy. When patients breathed through the tracheostomy, the total ventilation decreased, primarily because of reduction in dead space. Changes in oxygen consumption were variable, but there was a tendency for oxygen consumption to be reduced when subjects breathed through the tracheostomy. Only one patient showed an increase. Carbon dioxide tension remained constant, suggesting that its level was fixed by the respiratory control system and was not influenced by the manner of breathing. One hour after tracheostomy, the blood was less saturated with oxygen, but at 24 hours the oxygen saturation was often increased, and the carbon dioxide tension was decreased. Tracheostomy seems to reduce the burden of ventilation in patients with severe pulmonary emphysema, and its value is not just limited to facilitating the removal of pulmonary secretions. (Cullen, J. H.: *Evaluation of Tracheostomy in Pulmonary Emphysema*, *Ann. Intern. Med.* 58: 959 (June) 1963.)

TRACHEOSTOMY The original indication for tracheostomy was mechanical obstruction of the upper airway. Mechanical obstruction of the airway is now the indication for tracheostomy in only half the cases. Other reasons are: to aid in removal of secretions, to decrease the fatigue of repeated ineffectual coughing, to decrease dead space, and to provide a mechanical system for assisted or artificial respiration. In a series of 30 tracheostomy procedures done in 197 patients who had pulmonary resections, indications for the tracheostomy were evenly divided; respiratory embarrassment, ineffectual cough, and prophylaxis. There were no complications attributed to the tracheostomy. (Gardner, R. J., and Shields, T. W.: *Prophylactic and Therapeutic Tracheostomy After Pulmonary Resections*, *Arch. Surg.* 86: 964 (July) 1963.)

INHALATION THERAPY Requirements for establishment of an inhalation therapy service include a physician director, either an anesthesiologist or an interested chest physician, a supervising technician, and a group of specially trained persons who have no other hospital responsibilities. The quarters of this group should be centrally located and varied types of equipment should be available on call around the clock. A simple record system should be kept. The technician is trained to use the equipment and also to generally evaluate its effect upon the patient. The attending physician should be present at the initiation of therapy to fully evaluate its effect. Standardization of inhalation therapy techniques should be achieved by a committee of anesthesia, medical, surgical, and pediatric physicians and these standards upheld by the chief technician throughout the hospital. (Collins, V. J., and Kracum, V. D.: *Organization of an Inhalation Therapy Service*, *J. A. M. A.* 184: 135 (June 22) 1963.)

MAXIMAL BREATHING CAPACITY Maximal breathing capacity and one-year, three-year, and five-year survival rates were correlated in 239 patients with various cardiopulmonary diseases. Survival increased with increasing maximal breathing capacity when this was expressed as a percentage of its predicted value, the percentage of deaths de-